

Claims:

1. A method for the production of a concrete article having a pattern on a surface thereof, comprising

providing a mould having upstanding side walls, and a bottom surface which is patterned with a reverse image of the pattern desired on the surface of the article,

introducing into the mould in contact with its patterned surface a first layer of concrete mix by either

- (i) first introducing a layer of fluid binder slurry in contact with the said surface and applying on top of said slurry layer a layer of aggregate particles, or
- (ii) first introducing a layer of aggregate particles in contact with the said surface and applying on top of said aggregate layer a layer of fluid binder slurry,

applying a second layer of concrete mix on top of the first layer,

compacting the first and second layers of concrete mix in the mould to form the article in an uncured state,

optionally separating the side walls of the mould from the uncured article, and

demoulding the article after at least partial curing.

2. A method as claimed in claim 1 wherein

the mould comprises (a) a patterned bottom surface and a peripheral rim defining the periphery of the article, the height of the rim being sufficient to accommodate the layer of fluid binder slurry and/or the layer of aggregate particles in the cavity formed by the rim and the patterned bottom surface, and

(b) side walls, also defining the periphery of the article, which are moveable into and out of engagement with the rim, the height of the side walls being sufficient to accommodate the thickness of the article when the second layer of concrete mix is introduced, and wherein:

(1) the slurry layer, or (2) the aggregate particles layer, or (3) first the slurry layer then the aggregate particles layer, or (4) first the aggregate particles layer then the slurry layer, is/are introduced into the cavity defined by the patterned bottom surface and rim, while the side walls are out of engagement with the rim, and the walls are then brought into engagement with the rim prior to introduction of in case (1) the aggregate particles layer and second layer of concrete mix, in case (2) the slurry layer and second layer of concrete mix, and in cases (3) and (4) the second layer of concrete mix.

3. A method as claimed in claim 2 wherein the mould is of one of a contiguous plurality formed on a patterned bottom surface having a plurality of rims defining contiguous cells, the rim of each cell defining the periphery of an article, and a side wall tool moveable into and out of engagement with the rims to form the plurality of moulds when engaged with the rims.

4. A method as claimed in claim 2 or claim 3 wherein the contents of the cavity(ies) defined by the patterned bottom surface and the rim(s) are levelled by drawing a scraping tool over the rim(s) in a direction generally parallel to the patterned bottom surface to remove contents which overfill the cavity(ies).

5. A method as claimed in any of claims 2 to 4 wherein the side walls of the mould are disengaged from the said rim(s) after the second layer of concrete mix is applied, and the article(s) is/are at least partially cured while remaining in contact with the patterned bottom surface of the mould prior to separation therefrom.

6. A method as claimed in any of the preceding claims wherein the aggregate layer contains no binder particles.

7. A method as claimed in any of claims 1 to 5 wherein the aggregate layer is applied as a concrete mix containing a higher weight ratio of aggregate particles:binder and/or aggregate particles:water than the slurry layer.
8. A method as claimed in any of the preceding claims which includes compaction of the slurry and aggregate layers prior to application of the second layer of concrete mix, and/or compaction of the article in the mould prior to its separation from the mould.
9. A method as claimed in any of the preceding claims which includes vibration of the slurry and/or aggregate layers prior to application of the third layer, and/or vibration of the article in the mould prior to its separation from the mould.
10. A method as claimed in any of the preceding claims wherein the first layer of concrete mix formed from the slurry and aggregate layers is partially cured prior to application of the second layer of concrete mix.
11. A method as claimed in any of the preceding claims wherein the population of aggregate particles present in the first layer of concrete mix differs from that of the second layer of concrete mix in (a) binder:aggregate particles weight ratio and/or (b) aggregate particles size distribution and/or (c) material constituting the aggregate particles.
12. A method as claimed in any of the preceding claims wherein the composition of the first layer of concrete mix formed from the slurry and aggregate layers matches that of the second layer of concrete mix.
13. A method as claimed in any of the preceding claims wherein the article is a paver, the pattern being formed on its intended upper surface.
14. A method for the production of an article having a pattern on a surface thereof, comprising providing a preformed, self-supporting clay or

cementitious article having a patterned surface and an opposed backing surface, casting a concrete mix against said opposing surface, or pressing the opposing surface against a concrete mix, and curing the concrete mix to form a laminate of the preformed article and the cured concrete mix.

15. A method as claimed in claim 14 wherein the preformed article is a plate of cured concrete containing aggregate particles in the form of a sand.
16. A method as claimed in claim 15 wherein the plate is formed by casting a fluid mix of binder and aggregate onto a patterned bottom surface of a mould, optionally with pressing and/or vibration, separating the resultant uncured or partially cured plate from the patterned bottom surface, and, if not already self supporting, further cured the article until self-supporting.
17. A method as claimed in any of claims 13 to 16 wherein the opposed surface of the preformed article is roughened or provided with partially embedded keying elements.